

AF/3619

Attorney Docket No. ATI-165 JFW

UNITED STATES PATENT AND TRADEMARK OFFICE

Ex. Kent Wu Chang

Art Unit: 3619

Re: Application of:

David S. Breed

Serial No.:

09/645,709

Confirmation No.:

3330

Filed:

August 24, 2000

For:

INTERACTIVE VEHICLE DISPLAY
SYSTEM

Customer Number:

22846

APPEAL BRIEF UNDER 37 C.F.R. §1.192

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

February 9, 2005

Dear Sir:

On December 9, 2004, appellant, through his attorney, appealed from the final rejections of claims 1-6, 8-17, 21, 22, 27-30, 51, 54-62, 64-66, 89, 91, 92 and 94-113 set forth in an Office Action dated July 9, 2004 for the above-referenced application. The Notice of Appeal was received on December 10, 2004, and therefore this Appeal Brief is being timely within two months from the date of the Notice of Appeal.

This Appeal Brief is submitted in triplicate by appellant in support of the patentability of claims 1-6, 8-17, 21, 22, 27-30, 51, 54-62, 64-66, 89, 91, 92 and 94-113 of this application. For the reasons set forth below, it is believed that the rejections in the Office Action dated July 9, 2004 should be reversed.

FIRST CLASS MAIL CERTIFICATION

I hereby certify that this amendment is being deposited with the United States Postal Service as first class mail in a postage-paid envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 9, 2005.

Brian Roffe

A. REAL PARTY IN INTEREST

The real party in interest of the above-identified application is Automotive Technologies International, Inc., by virtue of an assignment of 100% interest in the application by the inventor-appellant.

B. RELATED APPEALS AND INTERFERENCES.

At this time, there are no related appeals or interferences.

C. STATUS OF CLAIMS

Claims 1-6, 8-17, 21, 22, 27-30, 51, 54-62, 64-66, 89, 91, 92 and 94-113 are pending in this application and all have been rejected. Appellant is therefore appealing the final rejections of these claims. Claims 7, 18, 31, 35-50, 52, 53, 63, 67-88, 90 and 93 are cancelled. Claims 19, 20, 23-26 and 32-34 are withdrawn from consideration in view of an earlier election of species requirement.

Claim 1 is an independent claim upon which claims 2-6, 8-17, 19-22 and 27-30 depend directly or indirectly, claim 51 is a second independent claim upon which claims 54-62, 64 and 65 depend directly or indirectly and claim 89 is a third independent claim upon which claims 91, 92, 94-113 depend directly or indirectly. The text of the claims on appeal is found in the Claims Appendix.

D. STATUS OF AMENDMENTS FILED SUBSEQUENT TO FINAL REJECTIONS

An Amendment Under 37 C.F.R. §1.116 was filed on October 12, 2004. In an Advisory Action mailed December 2, 2004, the Examiner indicated that the Amendment would be entered for the purposes of Appeal.

E. SUMMARY OF THE INVENTION

The present invention as defined in claim 1 relates to a vehicle including an interactive display system for a vehicle having forming means for forming an image of text and/or graphics in a field of view of a forward-facing occupant of the vehicle (heads-up display 130 in Fig. 1) and interacting means, namely a touch pad (see element 162 in Fig. 2), coupled to the forming means for enabling the occupant to interact with the forming means to change the image (133 in Figs. 3A-3G) formed by the forming means and/or direct another vehicular system to perform an operation. The forming means form the image apart from the touch pad, e.g., the touch pad is arranged on the steering wheel (103) and the image is projected onto the windshield (135) by the heads-up display (130). The vehicle also includes correlation means for correlating a location on the touch pad which has been touched by the occupant to the image to enable the occupant to direct the another vehicular system to perform an operation by touching the touch pad (control module 170, see page 24, line 33 to page 25, line 2). The correlation means are coupled to the forming means and arranged to cause the forming means to display an indicator in the image which correlates to the location on the touch pad touched by the occupant (for example, a cursor, see the specification, e.g., at page 16, line 28 to page 17, line 6).

An advantage of displaying an indicator of the touched location on the formed image (as shown in Figs. 3B, 3C, 3E and 3F) is that the occupant can see what operation will occur when they subsequently press their finger against the touch pad. That is, the initial touch of the touch pad will show the occupant where the finger is located in the image, e.g., over a control to adjust the heating system, and the subsequent pressing against the touch pad will execute the function being displayed at the location in the image correlating to the touched location, e.g., adjustment of the heating system. In addition to a cursor, display of an indicator may also encompass a variation in the location in the image correlating to the touched location of the touch pad, e.g., an inversion of the text at that location.

With the display device in accordance with the invention, the driver of a vehicle does not have to look at the touch pad, which may not be in the field of view of the driver when driving the vehicle, and

can view the image being formed by the forming means entirely in his or her field of view when driving the vehicle. The driver thus does not have to take his or her eyes off the road in order to perform vehicle control functions.

The present invention as defined in claim 51 relates to a vehicle includes forming means, a touch pad and correlation means essentially as described above, as well as determining means for determining a desired location of the eyes of the occupant for optimum viewing of the image (for example, transmitter and/or receiver assemblies 110, 111, 113), and adjustment means coupled to the forming means for adjusting the forming means based on the determined desired location of the eyes of the occupant and thus the location of the image and thereby enable the occupant's view of the image to be improved. The adjustment means may comprise actuator 133 and activating rod 134 as shown in Fig. 13.

An advantage of this embodiment is that the image projected by the forming means is varied depending on the location of the viewer's eyes to optimize the visualization of the projected text and/or graphics.

The present invention as defined in claim 89 relates to a vehicle including forming means which comprise two heads up displays (140, 145, see Fig. 2), one arranged to project text and/or graphics into a field of view of a driver of the vehicle and the other arranged to project text and/or graphics into a field of view of a passenger of the vehicle, as well as a touch pad (162) enabling correlation of a location thereon which has been touched by the occupant to the image to enable each occupant to change the image formed by the heads up displays (140, 145) or direct the another vehicular system to perform an operation by touching the touch pad (162).

As described in the specification at page 23, line 31 to page 24, line 16, each heads up display includes a HUD projection unit (or combiner as understood by those skilled in the art), a touch pad and a wire connecting the touch pad to the projection unit. The recitation of a heads up display therefore inherently connotes the presence of two HUD projection units. The HUD projection units are not shown

while only the touch pad (162) and wire (163) for the driver's heads up display (140) are shown in Fig. 2).

F. GROUNDS OF REJECTIONS

The issues presented on this appeal are as follows:

1. Whether it would have been obvious or even possible for a person having ordinary skill in the art at the time the invention was made to combine purported teachings of Palalau et al. (U.S. Pat. No. 6,373,472), Matsui (U.S. Pat. No. 6,215,479), Schiffman (U.S. Pat. No. 5,061,996), Berstis et al. (U.S. Pat. No. 6,505,165) and Matsumoto (U.S. Pat. No. 5,734,357) and arrive at the embodiments of the invention set forth in claims 1-6, 8-17, 21, 22, 27-30, 51, 54-62, 64-66.

2. Whether it would have been obvious or even possible for a person having ordinary skill in the art at the time the invention was made to combine purported teachings of Palalau et al., Schiffman, Berstis et al., Matsumoto and Matsui and arrive at the embodiments of the invention set forth in claims 89, 91, 92 and 94-113.

G. GROUPING OF CLAIMS

Claims 1-6, 8-17, 21, 22, 27-30, 51, 54-62, 64-66, 89, 91, 92 and 94-113 do not stand or fall together. Rather, claims 1-4, 6, 8, 11-17, 21, 22, 27-30, 51, 54, 56-62, 64-66 stand or fall together (a first group), claims 5, 89, 91, 94, 95 and 98-113 stand or fall together (a second group), claims 9, 10, 55, 96 and 97 stand or fall together (a third group), claims 13, 58 and 100 stand or fall together (a fourth group), claims 14, 59 and 101 stand or fall together (a fifth group), claims 15, 60 and 102 stand or fall together (a sixth group) and claims 16, 61 and 103 stand or fall together (a seventh group).

H. ARGUMENT

1. First Group

Claims 1-4, 8-18, 21 and 71 were rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al. in view of Matsui et al. Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsui et al. and Berstis et al. Claims 22, 27-30, 51, 54, and 56-66 were rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsui et al. and Matsumoto.

The Examiner's rejections of claims 1-6, 8-18, 21, 22, 27-30, 51, 54-66 and 71 are respectfully traversed on the grounds that none of the cited prior art references disclose, teach or suggest correlation means as set forth in independent claims 1 and 51.

The claimed correlation means correlate a location on a touch pad which has been touched by the occupant to the image to enable the occupant to direct another vehicular system to perform an operation by touching the touch pad. The correlation means are coupled to forming means and cause the forming means to display an indicator in the image which correlates to the location on the touch pad touched by the occupant. The touch pad is arranged to enable the occupant to interact with the forming means to direct the vehicular system to perform an operation.

In the invention, touching the touch pad enables the occupant to control a vehicular system in the vehicle. In order to ensure that the occupant changes and controls the specific vehicular system they want to control (and not another adjacent control), an indicator is displayed in the image at a location which corresponds to the location of the touch by the occupant's finger on the touch pad. Thus, the occupant can visualize a representation of their finger and either continue pressing to control the vehicular system (e.g., exert a higher force to validate the desire to control the indicated function) or move their finger to the "correct" location on the touch pad.

The Examiner relied primarily on Matsui to disclose such correlation means.

Matsui describes an image displaying apparatus which is used for projected presentations and correlates the location on a touch screen panel to a location on an image panel. The touch screen panel is segmented into discrete blocks and the image screen shows a pointer at a block corresponding to the location of the segmented block being touched in the touch screen panel.

In contrast to the invention, Matsui does not disclose, teach or suggest a touch pad which interacts with an image forming device to enable control of vehicular systems. Matsui is designed solely for use in presentations to display a pointer on an image based on the position of a pointing device on a touch screen. There is no mention of any vehicular application or even using the touch on the touch screen panel to perform an operation, in particular one relating to a vehicle.

Palalau et al. does not disclose, teach or suggest correlation means which correlate a location on a touch pad to a location in a projected image to enable touches of the touch pad to control vehicular systems. In Palalau et al. the touch pad itself contains indicia of the function being performed (which requires the driver to view the touch pad) while the projected image shows only the results of the function. As such, Palalau et al. does not provide for any correlation between the touch pad and the projected image.

Moreover, there is no motivation, suggestion or incentive to modify the system of Palalau et al. to provide for correlation between the location on the touch pad being touched and the projected image since the projected image merely displays the results of the touching of an indicated area on the touch pad by the user. That is, each area of the touch pad contains an indicia of what happens when that area is touched (col. 3, lines 61-66) and the image display changes as a result of touching each area. Correlation between the touched area and the image is not required, i.e., the parameter being changed may be located on the left of the image while the touched area is on the right of the touch screen. Indeed, the touch screen is vertically oriented in an arcuate configuration while the image is rectangular so obviously there is no need for correlation between the location on the touch pad and the projected image. By contrast, in

the invention such correlation is needed since indicia on the touch pad may not be present and instead the indicia is contained in the image.

Accordingly, one skilled in the art would not be motivated to modify the system of Palalau et al. to provide for correlation between a touched location on a touch pad and a projected image since there is no need for such correlation in the Palalau et al. system.

Berstis et al., Schiffman et al. and Matsumoto also do not disclose correlation means as set forth in claims 1 and 51.

Since the prior art does not disclose correlation means as set forth in claims 1 and 51 and does not provide any teaching, suggestion or motivation to modify Palalau et al to include such correlation means, one skilled in the art could not modify the Palalau et al. system in view of any of the cited prior art in order to arrive at the embodiments of the invention set forth in independent claims 1 and 51 or the embodiments set forth in claims dependent therefrom.

2. Fourth Group

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsui et al. and Schiffman, claims 89, 91, 92, 95, 98, 99 and 104-107 were rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al., claim 94 was rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Berstis et al., claims 108-111 were rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsumoto, and claims 112 and 113 were rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsui.

The Examiner's rejections are respectfully traversed on the grounds that the cited prior art does not show a vehicle including two heads-up displays, one arranged to project text and/or graphics into a field of view of a driver and the other arranged to project text and/or graphics into a field of view of the passenger.

Palalau et al., Berstis et al., Matsumoto and Matsui et al. do not disclose two heads up displays.

Schiffman et al. describes a display device 50 which displays images to be presented to a driver and a mirror 54 arranged in the field of view of the driver to reflect the contents of the display device 50 toward the eyes of the driver. A second mirror 55 is arranged in the field of view of the passenger so that the passenger can also view the images being displayed on display device 50. Thus, the Schiffman et al. system includes a single display device and two mirrors 54, 55 both of which reflect the same images from the display device 50.

Schiffman et al. does not disclose, teach or suggest providing two heads up display devices, each inherently including its own projection unit, one for the driver and the other for the passenger to enable them to view different text and/or graphics.

Since the prior art does not disclose two heads up displays, one skilled in the art could not modify the Palalau et al. system in view of any of the cited prior art in order to arrive at the embodiment of the invention set forth in claim 89 or the embodiments set forth in claims 91, 92, 94, 95 and 98-113 which depend from claim 89.

3. Third Group

Claims 9 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al, and Matsui, claim 55 was rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsui et al. and Matsumoto and claims 96 and 97 were rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al.

The Examiner's rejections are respectfully traversed because Palalau et al., Matsui and Matsumoto do not disclose, teach or suggest all of the features set forth in these claims, i.e., a touch pad arranged over a cover of an airbag module and being constructed to break upon deployment of an airbag from the airbag module.

The steering wheel shown in Palalau et al. includes portions which are not covered by the touch pad or touch screen 22, 32. Thus, the steering wheel could include an airbag below these portions so that

a break in the steering wheel cover could be formed over these portions to enable the airbag to deploy from the steering wheel.

It is therefore not “obvious” to construct the touch pad 22, 32 of Palalau et al. to break upon deployment, since it is not obvious to position the airbag below the touch pad, and in fact, it would not even be considered since it is easier to form a break for airbag deployment in the portions of the steering wheel cover which are not covered by the touch pad 22, 32. Thus, one skilled in the art would be inclined to position the airbag below a portion of the steering wheel cover not apart from the touch pad.

Since the cited prior art does not disclose a touch pad on a steering wheel over a cover and airbag, one skilled in the art could not modify the Palalau et al. system in view of any of the cited prior art, such as Matsui and Matsumoto, in order to arrive at the embodiment of the invention set forth in claims 9, 10, 55, 96 and 97.

4. Fourth Group

Claim 13 was rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al. in view of Matsui et al., claim 58 was rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsui et al. and Matsumoto and claim 100 was rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al.

Claims 13, 58 and 100 are directed to the feature of the touch pad being separable from the vehicle. The cited prior art does not disclose, teach or suggest a touch pad separable from a vehicle and which is used to control a heads up display system in the vehicle. It would not have been obvious to one of ordinary skill in the art to provide a detachable touch pad for a vehicle since the touch pads described in the prior art are integrated into the vehicle, e.g., into the steering wheel or instrument panel, and there is no disclosed teaching or motivation in the prior art to provide a separable touch pad.

In view of the foregoing, one skilled in the art could not modify the Palalau et al. system in view of any of the cited prior art in order to arrive at the embodiment of the invention set forth in claims 13, 58 and 100.

5. Fifth Group

Claim 14 was rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al. in view of Matsui et al., claim 59 was rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsui et al. and Matsumoto and claim 101 was rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al.

Claims 14, 59 and 101 are directed to the feature of the touch pad and forming means including means for enabling wireless communication therebetween. This allows the touch pad to be used freely anywhere in the vehicle.

The cited prior art does not disclose, teach or suggest a touch pad wirelessly connected to a heads up display unit in a vehicle and which controls the same. It would not have been obvious to one of ordinary skill in the art to provide a wireless connection between a touch pad and a heads up display unit in a vehicle since the touch pads described in the prior art are integrated into the vehicle, e.g., into the steering wheel or instrument panel, and there is no disclosed teaching or motivation to provide such a wireless connection.

In view of the foregoing, one skilled in the art could not modify the Palalau et al. system in view of any of the cited prior art in order to arrive at the embodiment of the invention set forth in claims 14, 59 and 101.

6. Sixth Group

Claim 15 was rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al. in view of Matsui et al., claim 60 was rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsui et al. and Matsumoto and claim 102 was rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al.

Claims 15, 60 and 102 are directed to the feature of the touch pad 15 being arranged in an armrest of the vehicle (see Fig. 11A).

The cited prior art does not disclose, teach or suggest a touch pad arranged in an armrest of the vehicle. Mounting locations for the touch pad in the cited prior art include only the steering wheel and instrument panel, and there is no disclosed teaching or motivation to place the touch pad in the armrest.

In view of the foregoing, one skilled in the art could not modify the Palalau et al. system in view of any of the cited prior art in order to arrive at the embodiment of the invention set forth in claims 15, 60 and 102.

7. Seventh Group

Claim 16 was rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al. in view of Matsui et al., claim 61 was rejected under 35 U.S.C. §103(a) as being unpatentable over Palalau et al. in view of Matsui et al. and Matsumoto and claim 103 was rejected under 35 U.S.C. §103(a) as being anticipated by Palalau et al.

Claims 16, 61 and 103 are directed to the feature of the touch pad being arranged in connection with an instrument panel of the vehicle and movable between a storage position in which it is inaccessible to the occupant and a use position in which it is accessible to the occupant (see Fig. 11B).

The cited prior art does not disclose, teach or suggest a touch pad movable between different positions depending on its state of use. Rather, the cited prior shows only fixed touch pads integrated into the vehicle, e.g., into the steering wheel or instrument panel, and there is no disclosed teaching or motivation to provide a movable touch pad.

In view of the foregoing, one skilled in the art could not modify the Palalau et al. system in view of any of the cited prior art in order to arrive at the embodiment of the invention set forth in claims 16, 61 and 103.

I. CONCLUSION

The prior art cited by the Examiner in the rejections of the pending claims does not disclose important features of the claimed embodiments of the invention and thus cannot be combined to render


the claimed embodiments obvious and/or it would not have been obvious to one of ordinary skill in the art to combine the cited prior art in the manner suggested by the Examiner in order to arrive at the claimed embodiments of the invention. For example, the feature of correlating a location on a touch pad to a location in a projected image to enable touches of the touch pad to control vehicular systems (claims 1 and 51) is not disclosed in the cited prior art nor is the feature of two heads up display (claim 89).

Therefore, upon reason and authority, it is respectfully requested that the board reverse all of the final rejections.

The fee of \$250.00 for filing an Appeal Brief, appellant having qualified for small entity status, should be charged to Deposit Account No. 50-0266. Any deficiency should be charged to the same Deposit Account.

An early and favorable action on the appeal is earnestly solicited.

FOR THE APPELLANT
Respectfully submitted,



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CLAIMS APPENDIX

1. A vehicle including an interactive display system for a vehicle, comprising:
forming means for forming an image of text and/or graphics in a field of view of a forward-facing occupant of the vehicle,
interacting means coupled to said forming means for enabling the occupant to interact with said forming means to direct another vehicular system to perform an operation, said interacting means comprising a touch pad arranged to enable the occupant to interact with said forming means to direct the another vehicular system to perform an operation, said forming means being arranged to form the image apart from said touch pad, and
correlation means for correlating a location on said touch pad which has been touched by the occupant to the image to enable the occupant to change the image formed by said forming means or direct the another vehicular system to perform an operation by touching said touch pad, said correlation means being coupled to said forming means and arranged to cause said forming means to display an indicator in the image which correlates to the location on said touch pad touched by the occupant.
2. The vehicle of claim 1, wherein said forming means comprise a heads-up display.
3. The vehicle of claim 1, wherein said forming means are arranged in connection with an instrument panel of the vehicle.
4. The vehicle of claim 1, wherein said forming means are arranged to form the image on a windshield of the vehicle.

5. The vehicle of claim 1, wherein said forming means comprise two heads up displays, one arranged to project text and/or graphics into a field of view of a driver and the other arranged to project text and/or graphics into a field of view of the passenger.

6. The vehicle of claim 1, wherein said interacting means further comprise a microphone.

8. The vehicle of claim 1, further comprising a steering wheel, said touch pad being arranged on said steering wheel of the vehicle.

9. The vehicle of claim 8, further comprising an airbag module having a cover and being arranged in said steering wheel, said touch pad being arranged over said cover of said airbag module.

10. The vehicle of claim 9, wherein said touch pad is constructed to break upon deployment of said airbag from said airbag module.

11. The vehicle of claim 1, wherein said correlation means are arranged such that contact with said touch pad causes said forming means to change the image based on the location on said touch pad which has been touched by the occupant.

12. The vehicle of claim 1, wherein said correlation means are arranged such that contact with said touch pad causes the vehicular system to perform the operation based on the location on said touch pad which has been touched by the occupant.

13. The vehicle of claim 1, wherein said touch pad is separable from the vehicle.

14. The vehicle of claim 1, wherein said touch pad and said forming means include means for enabling wireless communication between said touch pad and said forming means.

15. The vehicle of claim 1, wherein said touch pad is arranged in an armrest of the vehicle.

16. The vehicle of claim 1, wherein said touch pad is arranged in connection with an instrument panel of the vehicle and is movable between a storage position in which said touch pad is inaccessible to the occupant and a use position in which said touch pad is accessible to the occupant.

17. The vehicle of claim 1, wherein said touch pad is arranged to enable the occupant to interact with said forming means to change the image formed by said forming means.

21. The vehicle of claim 1, wherein the another vehicular system is a heating and air-conditioning system.

22. The vehicle of claim 1, wherein said forming means comprise a holographic combiner arranged in connection with a windshield of the vehicle.

27. The vehicle of claim 1, further comprising
determining means for determining a desired location of the eyes of the occupant, and
adjustment means coupled to said forming means for adjusting said forming means based on the determined desired location of the eyes of the occupant and thus the location of the image and thereby enable the occupant's view of the image to be improved.

28. The vehicle of claim 27, wherein said determining means comprise at least one receiver for receiving waves from a space above a seat in the vehicle in which the occupant is likely to be situated.

29. The vehicle of claim 28, wherein said determining means further comprise pattern recognition means for determining the position of the occupant based on the waves received by said at least one receiver and enable the desired position of the eyes of the occupant to be determined from the position of the occupant.

30. The vehicle of claim 27, wherein said determining means comprise at least one transmitter for transmitting waves into the space above a seat in the vehicle and at least one receiver for receiving the transmitted waves after the waves have passed at least partially through the space above the seat.

51. A vehicle including a display system for a vehicle, comprising
forming means for forming an image of text and/or graphics in a field of view of a forward-facing occupant of the vehicle,

a touch pad coupled to said forming means for enabling the occupant to interact with said forming means to change the image formed by said forming means or direct another vehicular system to perform an operation,

correlation means for correlating a location on said touch pad which has been touched by the occupant to the image to enable the occupant to ~~change the image formed by said forming means or~~ direct the another vehicular system to perform an operation by touching said touch pad, said correlation means being coupled to said forming means and arranged to cause said forming means to display an indicator in the image which correlates to the location on said touch pad touched by the occupant, said

touch pad being arranged to enable the occupant to interact with said forming means to direct another vehicular system to perform an operation,

determining means for determining a desired location of the eyes of the occupant for optimum viewing of the image, and

adjustment means coupled to said forming means for adjusting said forming means based on the determined desired location of the eyes of the occupant and thus the location of the image and thereby enable the occupant's view of the image to be improved.

54. The vehicle of claim 51, further comprising a steering wheel, said touch pad being arranged on said steering wheel of the vehicle

55. The vehicle of claim 51, further comprising an airbag module having a cover and being arranged in said steering wheel, said touch pad being arranged over said cover of said airbag module and is constructed to break upon deployment of an airbag from the airbag module.

56. The vehicle of claim 51, wherein said correlation means are arranged such that contact with said touch pad causes said forming means to change the image based on the location on said touch pad which has been touched by the occupant.

57. The vehicle of claim 51, wherein said correlation means are arranged such that contact with said touch pad causes the vehicular system to perform the operation based on the location on said touch pad which has been touched by the occupant.

58. The vehicle of claim 51, wherein said touch pad is separable from the vehicle.

59. The vehicle of claim 51, wherein said touch pad and said forming means include means for enabling wireless communication between said touch pad and said forming means.

60. The vehicle of claim 51, wherein said touch pad is arranged in an armrest of the vehicle.

61. The vehicle of claim 51, wherein said touch pad is arranged in connection with an instrument panel of the vehicle and is movable between a storage position in which said touch pad is inaccessible to the occupant and a use position in which said touch pad is accessible to the occupant.

62. The vehicle of claim 51, wherein said touch pad is arranged to enable the occupant to interact with said forming means to change the image formed by said forming means.

64. The vehicle of claim 51, wherein determining means comprise at least one receiver for receiving waves from a space above a seat in the vehicle in which the occupant is likely to be situated.

65. The vehicle of claim 64, wherein said determining means further comprise pattern recognition means for determining the position of the occupant based on the waves received by said at least one receiver and enable the desired position of the eyes of the occupant to be determined from the position of the occupant.

66. The vehicle of claim 51, wherein said determining means comprise at least one transmitter for transmitting waves into the space above a seat in the vehicle and at least one receiver for receiving the transmitted waves after the waves have passed at least partially through the space above the seat.

89. A vehicle including an interactive display system for a vehicle, comprising:

forming means for forming an image of text and/or graphics in a field of view of a forward-facing occupant of the vehicle, said forming means comprising two heads up displays, one arranged to project text and/or graphics into a field of view of a driver of the vehicle and the other arranged to project text and/or graphics into a field of view of a passenger of the vehicle, and

interacting means coupled to said forming means for enabling the occupant to interact with said forming means to change the image formed by said forming means or direct another vehicular system to perform an operation, said interacting means comprising a touch pad,

said forming means being arranged to form the image apart from said touch pad,

wherein a location on said touch pad which has been touched by the occupant is correlated to the image to enable the occupant to change the image formed by said forming means or direct the another vehicular system to perform an operation by touching said touch pad

91. The vehicle of claim 89, wherein said forming means are arranged in connection with an instrument panel of the vehicle.

92. The vehicle of claim 89, wherein said forming means are arranged to form the image on a windshield of the vehicle.

94. The vehicle of claim 89, wherein said interacting means further comprise a microphone.

95. The vehicle of claim 89, further comprising a steering wheel, said touch pad being arranged on said steering wheel of the vehicle.

96. The vehicle of claim 95, further comprising an airbag module having a cover and being arranged in said steering wheel, said touch pad being arranged over said cover of said airbag module.

97. The vehicle of claim 96, wherein said touch pad is constructed to break upon deployment of said airbag from said airbag module.

98. The vehicle of claim 89, further comprising correlation means for correlating a location on said touch pad which has been touched by the occupant to the image and arranged such that contact with said touch pad causes said forming means to change the image based on the location on said touch pad which has been touched by the occupant.

99. The vehicle of claim 89, further comprising correlation means for correlating a location on said touch pad which has been touched by the occupant to the image and arranged such that contact with said touch pad causes the vehicular system to perform the operation based on the location on said touch pad which has been touched by the occupant.

100. The vehicle of claim 89, wherein said touch pad is separable from the vehicle.

101. The vehicle of claim 89, wherein said touch pad and said forming means include means for enabling wireless communication between said touch pad and said forming means.

102. The vehicle of claim 89, wherein said touch pad is arranged in an armrest of the vehicle.

103. The vehicle of claim 89, wherein said touch pad is arranged in connection with an instrument panel of the vehicle and is movable between a storage position in which said touch pad is inaccessible to the occupant and a use position in which said touch pad is accessible to the occupant.

104. The vehicle of claim 89, wherein said touch pad is arranged to enable the occupant to interact with said forming means to change the image formed by said forming means.

105. The vehicle of claim 89, wherein said touch pad is arranged to enable the occupant to interact with said forming means to direct another vehicular system to perform an operation.

106. The vehicle of claim 105, wherein the another vehicular system is a heating and air-conditioning system.

107. The vehicle of claim 89, wherein said forming means comprise a holographic combiner arranged in connection with a windshield of the vehicle.

108. The vehicle of claim 89, further comprising
determining means for determining a desired location of the eyes of the occupant, and
adjustment means coupled to said forming means for adjusting said forming means based on the determined desired location of the eyes of the occupant and thus the location of the image and thereby enable the occupant's view of the image to be improved.

109. The vehicle of claim 108, wherein said determining means comprise at least one receiver for receiving waves from a space above a seat in the vehicle in which the occupant is likely to be situated.

110. The vehicle of claim 109, wherein said determining means further comprise pattern recognition means for determining the position of the occupant based on the waves received by said at least one receiver and enable the desired position of the eyes of the occupant to be determined from the position of the occupant.

111. The vehicle of claim 108, wherein said determining means comprise at least one transmitter for transmitting waves into the space above a seat in the vehicle and at least one receiver for receiving the transmitted waves after the waves have passed at least partially through the space above the seat.

112. The vehicle of claim 89, further comprising correlation means for correlating a location on said touch pad which has been touched by the occupant to the image to enable the occupant to change the image formed by said forming means or direct the another vehicular system to perform an operation by touching said touch pad, said correlation means being coupled to said forming means and arranged to cause said forming means to display an indicator in the image which correlates to the location on said touch pad touched by the occupant.

113. The vehicle of claim 89, wherein said forming means are controlled to display an indicator in the image which correlates to the location on said touch pad touched by the occupant.